

*Discussion Document for March 2007 Meeting*

**Joint Crops and Policy Development Committees  
March 28, 2007 – (version 3/08/07)**

**Guidance for Certification of Operations Participating in Crop Production Research**

**Introduction:**

Agricultural research is a critical component in the growth and expansion of organic agricultural production. Producers, handlers, and consumers benefit from research on new production methods, practices, and varieties. However, there is confusion and differences in the approaches followed by agencies when certifying operations involved in research. The NOSB recommends that the USDA issue guidance concerning the certification of operations involved in research in order to provide consistency and clarity regarding allowed research practices.

The ability of researchers to get their research lands certified has a direct bearing on their eligibility for funding and the expected adoption rates of their technologies. In recent years, federal, state, university, and private funds have become available for organic agricultural research, but some of these grants require that research be conducted on transitional or certified organic land. The Integrated Organic Program of USDA, for example, currently requires that all research be done on land that is either certified or transitioning to organic. Furthermore, a number of organic growers question the validity, and applicability, of research conducted on non-certified land.

The certification of land intended for organic agricultural research can present certain challenges, particularly in cases where prohibited practices, materials, or procedures are involved. Most research fields involve a number of small experimental plots which allow rigorous statistical analysis of treatment and control trials. According to NOP rule section §205.202, however, the entire research field would lose its certification delaying the implementation of new experiments and increasing the cost of organic agricultural research considerably.

**Background:**

**Regulatory citation pertinent to this document**

National Organic Program rule section 205.290(a)(3) allows the Administrator of USDA's Agricultural Marketing Service (AMS) to establish temporary variances from certain regulatory provisions for conducting research. The text is as follows:

- §205.290(a) - "Temporary variances from the requirements in §§ 205.203 through 205.207, 205.236 through 205.239, and 205.270 through 205.272 may be established by the Administrator for the following reasons:
- §205.290(a)(3) - "Practices used for the purpose of conducting research or trials of techniques, varieties, or ingredients used in organic production or handling."

Section §205.290(e) provides restrictions on the use of prohibited materials and practices. The text is as follows:

§205.290(e) - “Temporary variances will not be granted for any practice, material, or procedure prohibited under § 205.105.”

Section §205.202(b) and §205.202(c) provide restrictions on land requirements and boundaries:

§205.202(b) - “Have had no prohibited substances, as listed in §205.105, applied to it for a period of 3 years immediately preceding harvest of the crop;”

§205.202(c) - “Have distinct, defined boundaries and buffer zones such as runoff diversions to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance applied to adjoining land that is not under organic management.”

## **Discussion**

It is imperative that approved research projects must: 1) follow accepted forms of experimental design 2) be designed to provide data and knowledge that is valid in the context of organic production and handling systems; and 3) be conducted to protect the organic integrity and validity of the site used for organic research.

The NOSB recognizes that in response to grower demand for comparison studies, some researchers would like to conduct studies on certified organic land in order compare organic production systems with conventional practices. However, the intent of guidance for the certification of operations participating in research is to allow only studies that elucidate optimal production practices and inputs under certified organic conditions. The NOSB does not believe that comparative studies that assess the performance of organic practices against conventional practices justify routine pesticide applications on certified organic land.

## **Recommendation:**

To bring consistency and clarity concerning the certification of operations participating in research, the NOSB recommends the USDA issue the following guidance:

- A. For research sites on certified operations:
  - 1) Products may be produced under research variances to the requirements in §§ 205.203 through 205.207, and 205.270 through 205.272, provided that the operation is certified and the operation complies with all other regulatory requirements.
  - 2) Buffer zone requirements may be assessed on the research operation's ability to control for prohibited practices.
  - 3) The use of distinct plots within the overall operation is allowed for the purpose of comparative research and which may include prohibited materials or practices. Per regulation, all land treated with prohibited materials will be considered in transition subject to the procedures found in §205.202.
- B. To be considered for certification involving research, an application should be submitted to an accredited certifying agent that includes, as part of the Organic System Plan, the following information:
  - 1) A valid research plan, including the experimental design and projected benefits;
  - 2) A listing of the otherwise-prohibited materials and/or practices which form part of the research;
  - 3) The specific location (field number, plot plan, etc.) where such materials or practices would be applied;
  - 4) A **specific** timeframe for which the materials and/or practices will be used;
  - 5) A brief justification of why the materials and/or practices are needed and whether approved alternatives are available;
  - 6) A description of how non-certified products will be separated from certified organic products to prevent contamination or commingling, if applicable; and
  - 7) A description of how the land will be managed to regain full certification status **and reestablish its organic integrity** after the experiment has been concluded.
- C. During the accreditation review, the accredited agency must make information available regarding operations participating in research, itemizing the exact materials and/or practices involved in the research, and justification for the use of such materials and/or practices.
- D. Organic certificates issued to operations involved in crop production research must clearly state which plots are certified as organic.

## **Questions and Answers:**

The NOSB has received input containing examples of the types of issues of concern to researchers. The following questions and answers are presented to provide specific examples of the intent of the NOSB recommendation:

**Question 1)** Some scientists evaluating pest controls and yield losses feel it would be desirable to include a comparison treatment with prohibited materials in order to assess potential yields of organic crops vs. crops produced using non-organic methods. While these scientists agree that products from such studies could not be marketed as organic, they would like to relax rules regarding buffer zones or the requirement for an additional three-year transition after such applications.

**Answer 1)** The rule for the three year transition period for land following any prohibited material applications is contained in §205.202 and cannot be ignored. Under current rule, research trials such as these on certified organic farms would cause the land/plots in question to be de-certified for organic production. However, the NOSB is recommending the use of distinct plots for certified research operations which would allow the farm/site to maintain its certified organic status and researchers to access organic research grants. Distinct plots are designated areas of non-certified plots that are managed organically other than the prohibited material applications to be tested.

**Question 2)** Scientists studying nutrient cycling in soils often use radio-isotopes (e.g., P-35) as tracers. The radio-isotope would clearly be a prohibited material, but the half-life for these isotopes is well known and in many cases, they will disintegrate to background levels in one season.

**Answer 2)** This is the same situation as question #1 with the same answer.

**Question 3)** Buffer zone requirements consume large amounts of land when replicated comparisons of conventional and organic treatments are done in a randomized field experiment. Relaxation from the buffer zone rules would increase research efficiency and reduce the cost of such experiments.

**Answer 3)** Buffer zones requirements should depend on the research operation's ability for preventing chemical and/or genetic drift from occurring in order to protect the validity of the research.

**Question 4)** Certain experimental monitoring processes, although considered state-of-the-art from a scientific standpoint, may not be allowed under current NOP rules, e.g., neutron probe for soil moisture measurements, chemicals used for extractions in soil, genetically-marked microorganisms, etc. In some cases these are considered standard methods, and failure to use them makes it more difficult to publish research results in peer-reviewed scientific journals. Variances to authorize such methods could be helpful in attracting state-of-the-art science to organic research.

**Answer 4)** Monitoring technology that does not introduce a synthetic substance into the crop environment, such as neutron probes, is not a factor. Products produced using experimental nonsynthetic substances can be marketed as organic, unless the substances are listed on §205.602 or §205.604. Land exposed to experimental synthetic substances not found on the National List, excluded methods, irradiation, or sewage sludge, would need to be free of prohibited substances for 36 months prior to harvest of crops or products to be sold as organic.

**Question 5)** Trials of experimental materials to aid organic production, including but not limited to those for pest and disease control, weed control, soil fertility and crop nutrition, and post-harvest handling and storage, that are still under development often involve products not yet approved or even submitted for review by the NOSB. In some cases, such substances may contain inert ingredients not yet approved. Many companies developing commercial products are hesitant to invest in the necessary development costs until a product has proven efficacy over more than a limited range of sites. This creates a “Catch-22” that slows the commercial development of production and handling inputs and delays their availability for organic producers. Variances for research purposes would speed commercialization of such products and aid organic producers.

**Answer 5)** response as question 4.

**Question 6)** A researcher conducts vegetable variety trials. It is often not possible to get untreated seed of new varieties or breeding lines, making it impossible to integrate the treated seed varieties/lines into the organic plots. Instead, the treated seeds are planted in a separate but adjacent block. This prohibits the researcher from analyzing the data as one data set and directly comparing variety performance in the studies. The researcher would like to have a temporary variance that would allow treated seeds to be planted in the variety trials. In addition, seed companies need efficacy data of their varieties in organic systems before they are willing to make untreated (let alone organic) seeds available. A similar situation exists for organic seed breeding programs, where foundation seeds may only be available as treated with prohibited substances.

**Answer 6)** Seeds treated with prohibited materials become a method for applying a prohibited substance to the land in which they are planted. This is no different than any other application of prohibited materials. Land where treated seeds were planted would need to be free of prohibited substances for 36 months prior to harvest of crops or products to regain certified organic status.

**Committee vote:**

To be determined